

BRODERICK BOAT LAUNCHING FACILITY

\$653,000 Grant

SUMMARY

The City of West Sacramento has applied to the Department of Boating and Waterways for a grant of \$653,000 to make improvements to the Broderick Boat Launching Facility (Broderick BLF).

The Broderick BLF is located in the northeast corner of West Sacramento on the west bank of the Sacramento River, just downstream from its confluence with the American River. The existing facility, originally constructed in 1973 with a grant from the Department of Boating and Waterways, consists of a two-lane concrete boat launching ramp, a boarding float, a 50 vehicle/trailer parking area, and a restroom.

The Boating and Waterways Commission previously consented to grants (totaling \$1,093,000) to the City for improvements to the Broderick BLF.

The proposed project entails: (1) widening the existing boat ramp, (2) installing a boarding float, (3) installing anchoring systems for the proposed boarding float and for the existing boarding float, (4) installing lighting for the boat ramp, (5) constructing a fish cleaning station, (6) installing security gates, (7) upgrading the sewer system, (8) constructing two 24' by 24' shade gazebos with walkways, (9) adding picnic tables and barbeques, (10) adding a drinking fountain, (11) constructing a trash/recycling area, (12) installing backflow device cages, and, (13) adding a project sign.

The benefit/cost ratio must be greater than unity (1.00) before public investment in a project is justified. This project is considered economically feasible with a benefit/cost ratio of 1.38.

DBW grants are funded exclusively through the Harbors and Watercraft Revolving Fund. These funds are derived from the gasoline taxes paid by boaters in California and the repayment of loan principal and interest. No State General Fund dollars are used

INTRODUCTION

GRANT APPLICANT

The grant applicant for this project is the City of West Sacramento (City). The City Parks and Recreation Department is responsible for the operation of the Broderick Boat Launching Facility (Broderick BLF). The mission objectives of the Parks and Recreation Department include providing recreational experiences, improving safety and security, protecting environmental resources, and strengthening community image and sense of place.

PROJECT IDENTIFICATION

The proposed project entails improvements to the boat launching facility on the Sacramento River. The Project Area is the Broderick BLF. The existing facility, originally constructed in 1973 with a grant from the Department of Boating and Waterways, consists of a two-lane concrete boat launching ramp, a boarding float, a 50 vehicle/trailer parking area, and a restroom. As the only publicly owned river access point on the west bank of the Sacramento River in the Sacramento area, the Broderick BLF is a key focus of West Sacramento's planned public improvements. Other boat launching facilities located within a ten mile radius of Broderick BLF are Miller Park BLF, Discovery Park BLF, and Elkhorn BLF.

PROJECT LOCATION

The Broderick BLF is located in the northeast corner of West Sacramento on the west bank of the Sacramento River, just downstream from its confluence with the American River.

ACCESS TO PROJECT

To get to the Broderick BLF from Downtown Sacramento, take Interstate 5 north to the 'J' Street exit. Travel two blocks and turn left on 5th Street. Turn left on 'I' Street and go over the 'I' Street Bridge. Travel two blocks and turn right on 4th Street. Travel another two blocks and turn right into the Broderick BLF.

AREA DESCRIPTION

The Broderick BLF is located in the northernmost portion of the Sacramento-San Joaquin Delta. The delta area is characterized by a mixture of urban commercial/industrial, residential, visitor, and rural agricultural land uses. These varied adjacent land uses provide for an



equivalent variety of recreational opportunities. The Sacramento River is a premiere fishing location. The river has the largest king salmon run on the west coast, as well as striped bass, sturgeon, and steelhead fishing. The confluence with the American River also provides access to shad fishing.

In 1994, the City of West Sacramento and the City of Sacramento produced a joint riverfront master plan for both sides of the river. The Sacramento River Greenway Plan provides a conceptual design for the future development of the shared Sacramento River frontage. This plan is important to both cities in that it will strengthen the green belt along the riverfront in both communities, create a web of connectivity along the riverfront and between the two cities, as well as create riverfront districts and neighborhoods.

The Broderick BLF is an integral project in the Riverfront Master Plan. When the Riverfront Master Plan is fully implemented (in 10 to 30 years dependent on the specific project), the boat launching facility will be linked to points north and south (residential, retail, entertainment and recreational), with an eventual link along 30 miles of the Sacramento River shared by Sacramento and Yolo Counties.

PREVIOUS COMMISSION ACTION

The Boating and Waterways Commission previously consented to the following grants to the City of West Sacramento for improvements to the Broderick BLF:

In FY 1973/74 the Commission approved a grant of \$240,000 for a two-lane boat launching ramp, boarding floats, a paved 50 vehicle/trailer parking area, a restroom, utilities, lighting, and landscaping.

In FY 1996/97 through FY 1997/98, the Commission approved a grant in two phases of \$423,000 for new boarding floats, a paved 50 vehicle/trailer parking area, a restroom, utilities, lighting, and landscaping.

In FY 2002/03, the Commission approved a grant of \$430,000 for expanding the parking area, constructing a new concrete apron, adding slope protection, adding security gates, upgrading parking area lighting, and adding directional signs.

ENGINEERING CONSIDERATIONS

Before a project is submitted to the Governor for inclusion in the budget, Department of Boating and Waterways (DBW) staff reviews both the site and the application to verify that the proposed project will meet DBW standards when completed. Planning personnel visit the site and discuss



project layout and components with the applicant. After an application is received, DBW engineers review the project proposal. DBW's engineering review includes an analysis of site use, review of project components, and verification of estimated costs. Only after it is determined that the proposed project meets DBW standards and the preliminary cost estimate is verified is the project included in the budget.

Once a proposed project is approved by the DBW Commission, plans and specifications will be finalized and a final cost estimate will be determined for the project. If the final cost estimate exceeds the preliminary cost estimate the grantee has a number of options. It may either find additional funds elsewhere, alter or scale down the project, apply for additional funding, or discontinue the project. Any scope change or increase in cost to DBW requires additional Commission consideration. If the grantee discontinues the project any DBW funds expended by the grantee must be returned to DBW.

COST ESTIMATE

<u>PROJECT ITEM</u>	<u>DBW</u>
Boat Ramp Widening	\$ 141,000
Piles	31,000
Boarding Float	50,000
Float Anchoring Systems	18,500
Ramp Lighting	10,000
Fish-Cleaning Station	37,000
Security Gates	14,000
Sewer System	21,000
Shade Gazebos/Walkways	80,000
Picnic Tables/Barbeques	16,000
Drinking Fountain	2,500
Trash/Recycling Area	5,000
Backflow Device Cages	3,500
Concrete Project Sign	<u>6,000</u>
SUBTOTAL	\$ 435,500
Escalation*	87,000
Contingency*	43,550
Engineering*	52,250
Inspection*	21,700
Permits*	<u>13,000</u>
TOTAL	\$ 653,000

*Project non-construction costs are as follows: Escalation is 20% of the construction subtotal; contingency is 10% of the construction subtotal; engineering is 12% of the construction subtotal; inspection is 5% of the construction subtotal, and; permits are 3% of the construction subtotal.

PROPOSED PROJECT

The proposed Broderick BLF project considered in this report entails: (1) widening the existing boat ramp from 30' to 45', (2) installing one 8' by 40' cable guided steel frame aluminum deck boarding float, (3) installing an anchoring system for the proposed boarding float and an improved anchoring system for the existing boarding float, (4) installing lighting for the boat ramp, (5) constructing a fish cleaning station, (6) installing two security gates with traffic spikes, (7) upgrading the sanitary sewer system, (8) constructing two 24' by 24' shade gazebos (one will have barrier-free access) with walkways, (9) adding four picnic tables and eight barbeques, (10) adding a drinking fountain (barrier-free), (11) constructing a trash/recycling area near the boat ramp, (12) installing water backflow device cages, and, (13) adding a concrete project sign.

CONCLUSION

There are no particularly difficult or unusual problems associated with this project and it falls within the normal range of practice for design and construction of projects of this type. Therefore, the proposed project is considered feasible from an engineering standpoint at a total estimated cost of \$653,000.

ECONOMIC ANALYSIS

INTRODUCTION

The economic justification of any proposed project rests upon a comparison of the benefits and costs attributable to the project. A benefit/cost analysis is performed to demonstrate whether the total cost of a project to society is justified by its overall benefit to society. A project is deemed beneficial and therefore economically feasible when total benefits equal or exceed total costs.

TABLE 1A

	EXISTING	PROJECTED
ANNUAL BOAT LAUNCHES	11,000	12,000
AVERAGE PERSONS ABOARD	3.35	3.35
ANNUAL BASE YEAR USER DAYS	36,850	40,200

In the benefit/cost analysis in this report, projects evaluated by DBW are considered either new projects or improvement projects. A new project is initial facility construction, or a project at a facility that has not been improved utilizing DBW grant funds within the last 20 years. An improvement project is a project at a facility at which DBW grant funds *have* been utilized for site improvements in the last 20 years. Broderick BLF is considered to be an improvement project. The value of an improvement project is determined by a comparison of the benefits and the costs of the existing facility, with the benefits and the costs of the proposed facility with the proposed improvements in place.

TABLE 1B

NUMBER IN MKT. AREA		ACTUAL PROJECTED	
		2005	2025
BOATS < 26' IN LENGTH	low	154,427	198,200
	high	154,427	238,797
ANNUAL GROWTH RATE			2.10%

Glossary/Data Sources

Much of the data below was derived from the 2002 California Boating Facilities Needs Assessment (BNA) - a comprehensive assessment of boats and boating facilities statewide.

1. Annual Base Year User Days - annual boat launches times average persons aboard a boat.

2. Annual Boat Launches - existing or projected yearly boat launches at a facility, estimated by the grantee, or from regional data from the BBS.

3. Average Persons Aboard a Boat - regional data from the BBS.

4. Annual Percentage Growth Rate - the average of the low and high boat usage (over the 20-year life expectancy of the project) derived from boat forecasts regional data for boats less than 26 foot in length.

5. Boat Forecasts Regional Data - boat ownership in California by region and boat length through 2020. Data sources include DMV Year-End Boat Registration Report; DMV Boat Registration Data Tapes; California Department of Finance, County Population Estimates for January 1; California Department of Finance, Interim County Population Projections; US MARAD, Merchant Vessels of the U.S.

6. User Day Value - the measure of the value of one day of recreation to the user. For the purposes of this analysis, it is the value of recreation provided by publicly accessible waterways and boating facilities within California. The user day value was determined by using a technique known as the travel cost method. The travel cost method assumes that an individual's willingness to pay time and travel expenses for a recreational outing can be estimated based on the number of trips that they make at different travel costs. These costs can then be used as proxy to estimate the "price" of recreation.

Glossary/Data Sources
~ Continued ~

The BBS estimated a travel cost per day for recreational boating in California, which was then divided by the average number of persons aboard a boat on an average boating trip. This yielded an average travel cost per person per day of boating of \$17.89. This is the user day value used in this benefit/cost analysis.

7. Consumer Price Index - monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services.

8. Boat launching fees - existing or projected fees for boat launching from grantee.

9. Annual Percentage Cost Escalation Rate- the annual percent increase in the 20-city average of the construction cost index.

10. Standard cost - The cost to be used in the calculation of annual costs when the boat launching facility does not charge a fee. This cost (\$5.23) is derived from a DBW Fee Survey completed in August 2001, and is increased by the Consumer Price Index annually. The current cost is \$5.71.

11. Regional Data - In the BNA, California is divided into ten regions: North Coast, San Francisco, Central Coast, South Coast, San Diego, Northern Interior, Sacramento Basin, Central Valley, Eastern Sierra, and Southern Interior.

TABLE 2**PROJECT USER DAYS**

	EXISTING	PROJECTED
1	37,624	41,044
2	38,414	41,906
3	39,221	42,786
4	40,044	43,685
5	40,885	44,602
6	41,744	45,539
7	42,620	46,495
8	43,515	47,471
9	44,429	48,468
10	45,362	49,486
11	46,315	50,525
12	47,288	51,586
13	48,281	52,670
14	49,294	53,776
15	50,330	54,905
16	51,387	56,058
17	52,466	57,235
18	53,567	58,437
19	54,692	59,664
20	55,841	60,917

projected project user days per year. The project user days per year are multiplied by a user day value plus the expected annual percent increase in the Consumer Price Index to give existing and projected annual benefits (Table 2).

Next, annual costs are determined by multiplying the existing and projected annual boat launches for the facility by the cost per boat launching and the expected annual percent cost escalation rate to give annual costs. If there is no charge for boat launching at the facility, a standard cost is substituted in the equation. A

THE BENEFIT/COST PROCESS

Benefits and costs and user data are verified by comparison with data published in the 2002 California Boating Facilities Needs Assessment (BNA). BNA Volume V - Boating Economic Assessments and Facilities Demand Projections - summarizes the economic benefits of boating to California, the values of recreational boating in California, and the demand projections for boating and boating facilities derived from the 2001 California Boats and Boaters Survey (BBS). This project is located in the Sacramento Basin region (see Glossary/Data Sources, #11).

The first step in the benefit/cost analysis is to determine annual benefits. Annual benefits are determined by calculating the existing and projected annual base year user days (Table 1A) and the annual percentage growth rate (Table 1B). These two are multiplied to give the existing and

USER DAY VALUE	\$ 17.89	\$ 17.89
CPI	4.7%	4.7%

	EXISTING	PROJECTED
ANNUAL BENEFITS		
1	673,091	734,281
2	719,525	784,937
3	734,635	801,420
4	750,063	818,250
5	765,814	835,433
6	781,896	852,977
7	798,316	870,890
8	815,080	889,179
9	832,197	907,851
10	849,673	926,916
11	867,516	946,381
12	885,734	966,256
13	904,335	986,547
14	923,326	1,007,264
15	942,715	1,028,417
16	962,513	1,050,014
17	982,725	1,072,064
18	1,003,363	1,094,577
19	1,024,433	1,117,563
20	1,045,946	1,141,032

TABLE 3

BOAT LAUNCHING FEE		5.71	5.71
ANNUAL LAUNCHES		11,000	12,000
ANNUAL COST		\$62,810	\$68,520
MAINTENANCE		\$ 63,310	
ANNUAL COST ESCALATION		3.40%	3.40%
		EXISTING	PROJECTED
ANNUAL COSTS	1	\$ 63,310	\$ 68,520
	2	\$ 65,463	\$ 70,850
	3	\$ 67,688	\$ 73,259
	4	\$ 69,990	\$ 75,749
	5	\$ 72,369	\$ 78,325
	6	\$ 74,830	\$ 80,988
	7	\$ 77,374	\$ 83,741
	8	\$ 80,005	\$ 86,589
	9	\$ 82,725	\$ 89,533
	10	\$ 85,538	\$ 92,577
	11	\$ 88,446	\$ 95,724
	12	\$ 91,453	\$ 98,979
	13	\$ 94,562	\$ 102,344
	14	\$ 97,778	\$ 105,824
	15	\$ 101,102	\$ 109,422
	16	\$ 104,539	\$ 113,142
	17	\$ 108,094	\$ 116,989
	18	\$ 111,769	\$ 120,967
	19	\$ 115,569	\$ 125,080
	20	\$ 119,499	\$ 129,332

ANNUAL GROWTH RATE	
2.08%	2.08%
EXISTING	PROJECTED
\$ 64,627	\$ 69,945
\$ 66,824	\$ 72,323
\$ 69,096	\$ 74,782
\$ 71,445	\$ 77,325
\$ 73,875	\$ 79,954
\$ 76,386	\$ 82,672
\$ 78,983	\$ 85,483
\$ 81,669	\$ 88,390
\$ 84,446	\$ 91,395
\$ 87,317	\$ 94,502
\$ 90,286	\$ 97,715
\$ 93,355	\$ 101,038
\$ 96,529	\$ 104,473
\$ 99,811	\$ 108,025
\$ 103,205	\$ 111,698
\$ 106,714	\$ 115,496
\$ 110,342	\$ 119,423
\$ 114,094	\$ 123,483
\$ 117,973	\$ 127,681
\$ 121,984	\$ 132,023

maintenance cost is also added to existing annual costs. Both existing and projected annual costs are then multiplied by the annual growth rate. (Table 3).

Project benefits per year and project operating costs per year are then discounted to yield their net present value. Since the value of a dollar is considered to be greater in the present year than in some future year, a discount rate is applied in order to de-inflate the future dollars and to convert the benefits and costs occurring over the 20-year grant period to a present day value. In this manner, the present day value may be comparable to other values in the present.

The sum of the present benefits and the discounted future benefits is the net present value of the project (Table 4). The sum of the present costs, including capital costs, and the discounted future costs is the net present cost of the project (Table 5).

TABLE 4

BENEFITS				NET PRESENT VALUE	
Year	Existing Benefits	Projected Benefits	Project Benefits	Discount Rate	Benefits
0	\$673,091	\$734,281	\$61,190	1.00	\$61,190
1	\$719,525	\$784,937	\$65,411	1.05	\$62,590
2	\$734,635	\$801,420	\$66,785	1.09	\$61,160
3	\$750,063	\$818,250	\$68,188	1.14	\$59,750
4	\$765,814	\$835,433	\$69,619	1.19	\$58,380
5	\$781,896	\$852,977	\$71,081	1.25	\$57,040
6	\$798,316	\$870,890	\$72,574	1.30	\$55,730
7	\$815,080	\$889,179	\$74,098	1.36	\$54,450
8	\$832,197	\$907,851	\$75,654	1.42	\$53,200
9	\$849,673	\$926,916	\$77,243	1.49	\$51,980
10	\$867,516	\$946,381	\$78,865	1.55	\$50,780
11	\$885,734	\$966,256	\$80,521	1.62	\$49,620
12	\$904,335	\$986,547	\$82,212	1.70	\$48,480
13	\$923,326	\$1,007,264	\$83,939	1.77	\$47,360
14	\$942,715	\$1,028,417	\$85,701	1.85	\$46,280
15	\$962,513	\$1,050,014	\$87,501	1.94	\$45,210
16	\$982,725	\$1,072,064	\$89,339	2.02	\$44,180
17	\$1,003,363	\$1,094,577	\$91,215	2.11	\$43,160
18	\$1,024,433	\$1,117,563	\$93,130	2.21	\$42,170
19	\$1,045,946	\$1,141,032	\$95,086	2.31	\$41,200
Total Net Present Value of Benefits:					\$1,033,910

The discount rate being used is 4.50%. This is equivalent to the interest rate being charged by the Department of Boating and Waterways on its public loans. Present value is determined by dividing future benefits by $(1+r)^n$, where r is the discount rate and n is the number of years into the future.

The net present value of benefits is then divided by the net present value of costs to yield the benefit/cost ratio. The benefit/cost ratio must be greater than unity (1.00) before public investment in a project is justified (Table 6).

ANNUAL LAUNCHES

Current annual launches for Broderick BLF are approximately 11,000. Annual launches after this Project is completed are projected to be 12,000. (Table 1A).

ANNUAL BENEFITS

Annual projected base year user days for this project are 40,200. (Table 1A). The annual percentage growth rate is 2.10% (Table 1B). Annual

TABLE 5

COSTS				NET PRESENT VALUE	
Year	Capital Costs	Annual Existing Costs	Annual Projected Costs	Discount Factor	Cost
0	\$653,000	\$64,627	\$69,945	1.000	658,320
1		\$66,824	\$72,323	1.045	5,260
2		\$69,096	\$74,782	1.092	5,210
3		\$71,445	\$77,325	1.141	5,150
4		\$73,875	\$79,954	1.193	5,100
5		\$76,386	\$82,672	1.246	5,040
6		\$78,983	\$85,483	1.302	4,990
7		\$81,669	\$88,390	1.361	4,940
8		\$84,446	\$91,395	1.422	4,890
9		\$87,317	\$94,502	1.486	4,840
10		\$90,286	\$97,715	1.553	4,780
11		\$93,355	\$101,038	1.623	4,730
12		\$96,529	\$104,473	1.696	4,680
13		\$99,811	\$108,025	1.772	4,630
14		\$103,205	\$111,698	1.852	4,590
15		\$106,714	\$115,496	1.935	4,540
16		\$110,342	\$119,423	2.022	4,490
17		\$114,094	\$123,483	2.113	4,440
18		\$117,973	\$127,681	2.208	4,400
19		\$121,984	\$132,023	2.308	4,350
Total Present Value of Costs:					\$749,370

The discount rate being used is 4.50%. This is equivalent to the interest rate being charged by the Department of Boating and Waterways on its public loans. Present value is determined by dividing future benefits by $(1+r)^n$, where r is the discount rate and n is the number of years into the future.

benefits are shown in Table 2. The net present value of benefits is shown in Table 4.

ANNUAL COSTS

Annual costs are shown in Table 3. The net present value of costs is shown in Table 5.

BENEFIT/COST RATIO

The benefit/cost ratio for this project is 1.38 (Table 6). This means that estimated benefits exceed estimated costs. The construction of this project therefore, is economically justified.



FINANCIAL CONSIDERATIONS

Projects are publicly funded from boaters tax dollars. After the project is funded, the grantee must maintain the facility for 20 years at no additional cost to the Department. The completed project will be open to all on an equal and reasonable basis. The City does not charge to launch a boat at the Broderick BLF.

TABLE 6

NET PRESENT VALUE OF BENEFITS	\$1,033,910
NET PRESENT VALUE OF COSTS	\$749,370
BENEFIT/COST RATIO	1.38

CONCLUSION

This project is being recommended because additional improvements to the boat launching facility are needed.

RECOMMENDATION

In view of the foregoing demonstration of the project's engineering and financial feasibility, staff recommends that the Boating and Waterways Commission consent to grant funding of \$653,000 to the City of West Sacramento for improvements to the Broderick Boat Launching Facility.

Broderick Boat Launching Facility

